



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-1108; Product Identifier 2012-NE-44-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Rolls-Royce plc Turbojet Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede airworthiness directive (AD) 2016-03-03 that applies to all Rolls-Royce plc (RR) Viper Mk. 521, Viper Mk. 522, and Viper Mk. 601-22 turbojet engines. AD 2016-03-03 requires reducing the life of certain critical parts. Since we issued AD 2016-03-03, RR determined that additional parts for these RR Viper engine models are affected. This proposed AD would add additional engine parts to the applicability. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact DA Services Operations Room at Rolls-Royce plc, Defense Sector Bristol, WH-70, P.O. Box 3, Filton, Bristol BS34 7QE, United Kingdom; phone: +44 (0) 117 97 90700; fax: +44 (0) 117 97 95498; email: defence-operations-room@rolls-royce.com. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1108; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information, regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Robert Green, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2017-1108; Product Identifier 2012-NE-44-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

### **Discussion**

We issued AD 2016-03-03, Amendment 39-18390 (81 FR 12585, March 10, 2016), “AD 2016-03-03,” for all RR Viper Mk. 521, Viper Mk. 522, and Viper Mk. 601-22 turbojet engines. AD 2016-03-03 requires reducing the life of certain critical parts. AD 2016-03-03 resulted from a determination by RR that the life of certain critical engine parts needed to be reduced. We issued AD 2016-03-03 to prevent failure of life-limited parts, which could lead to an uncontained part release, damage to the engine, and damage to the airplane.

### **Actions Since AD 2016-03-03 Was Issued**

Since we issued AD 2016-03-03, RR determined that additional compressor rotating shrouds and the compressor main shaft, installed on the affected Viper engines, require a reduction in their cyclic life limits. Also since we issued AD 2016-03-03, the European Aviation Safety Agency (EASA) has issued AD 2017-0148, dated August 15, 2017, which requires reducing the cyclic life limits of the affected parts.

### **Related Service Information under 1 CFR Part 51**

RR has issued Alert Service Bulletin (ASBs) Mk. 521 Number 72-A408, Circulation A; Mk. 521 Number 72-A408, Circulation B; Mk. 522 Number 72-A413, Circulation A; Mk. 522 Number 72-A412, Circulation B; and Mk. 601-22 Number 72-A207; all identified as Revision 1 and all dated June 2017. RR ASBs Mk. 521 Number 72-A408, Circulation A (Revision 1) and Mk. 521 Number 72-A408, Circulation B (Revision 1) describe applicable part numbers (P/Ns) and revised cyclic life limits for parts installed on the Mk. 521 engine. RR ASBs Mk. 522 Number 72-A413, Circulation A (Revision 1), and Mk. 522 Number 72-A412, Circulation B (Revision 1) describe applicable P/Ns and revised cyclic life limits for parts installed on the Mk. 522 engine. RR ASB Mk. 601-22 Number 72-A207, Rev. 1, describes applicable P/Ns and revised cyclic life limits for parts installed on the Mk. 601-22 engine. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **FAA’s Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Proposed AD Requirements**

This proposed AD would require reducing the cyclic life of certain critical parts. This proposed AD would add additional parts to the applicability of AD 2016-03-03.

## **Costs of Compliance**

We estimate that this proposed AD affects 46 engines installed on helicopters of U.S. registry.

We estimate the following costs to comply with this proposed AD:

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Remove and replace parts	4 work-hours X \$85 per hour = \$340	\$75,000	\$75,340	\$3,465,640

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

### **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2016-13-03, Amendment 39-18390 (81 FR 12585, March 10, 2016), and adding the following new AD:

**Rolls-Royce plc (Type Certificate previously held by Rolls-Royce (1971) Limited, Bristol Engine Division):** Docket No. FAA-2017-1108; Product Identifier 2012-NE-44-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2016-13-03, Amendment 39-18390 (81 FR 12585, March 10, 2016).

**(c) Applicability**

This AD applies to all Rolls-Royce plc (RR) Viper Mk. 521, Viper Mk. 522, and Viper Mk. 601-22 turbojet engines.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7230, Compressor Section.

**(e) Unsafe Condition**

This AD was prompted by a review by RR of the lives of certain critical parts. We are issuing this AD to prevent failure of life-limited parts, uncontained part release, damage to the engine, and damage to the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Remove from service any Group A component listed in Table 1 of the RR Alert Service Bulletins (ASBs) listed in paragraphs (g)(1)(i) through (v) of this AD within 30 days after the effective date of this AD, or before the part exceeds the revised life limit specified in the applicable ASB, whichever occurs later.

(i) RR ASB Mk. 521 Number 72-A408, Circulation A (Revision 1), dated June 2017.

(ii) RR ASB Mk. 521 Number 72-A408, Circulation B (Revision 1), dated June 2017.

(iii) RR ASB Mk. 522 Number 72-A413, Circulation A (Revision 1), dated June 2017.

(iv) RR ASB Mk. 522 Number 72-A412, Circulation B (Revision 1), dated June 2017.



(v) RR ASB Mk. 601-22 Number 72-A207, Rev. 1, dated June 2017.

(2) Reserved.

**(h) Installation Prohibition**

After the effective date of this AD, do not install any Group A component identified in Table 1 of the RR ASBs in paragraph (g)(1)(i) through (v) of this AD into any engine, or return any engine to service with any affected part installed, if the affected part exceeds the revised life limit specified in the applicable ASB.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, may approve AMOCs for this AD, if requested, using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(j) Related Information**

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency, AD 2017-0148, dated August 15, 2017, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2017-1108.

(3) For service information identified in this AD, contact DA Services Operations Room at Rolls-Royce plc, Defense Sector Bristol, WH-70, P.O. Box 3, Filton, Bristol BS34 7QE, United Kingdom; phone: +44 (0) 117 97 90700; fax: +44 (0) 117 97 95498; email: defence-operations-room@rolls-royce.com.

(4) You may view this referenced service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on December 8, 2017.

Robert J. Ganley,  
Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.

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